U.S.F.W.S.

Situation & Outlook

Current Economic Analysis · I1 · April 1968

1967 Review

INDUSTRIAL FISHERY PRODUCTS

1967 REVIEW

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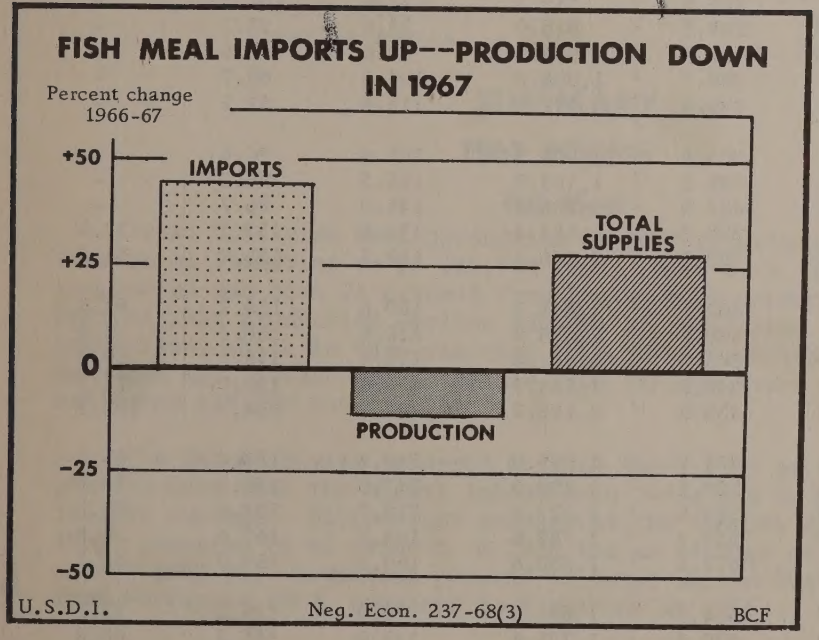

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Production of fish meal, oil, and solubles; meal imports; and menhaden landings, 1935-67[1/]

Year	All fish meal			Menhaden			
	U.S. production[2/]	Imports	Total supplies	Landings	Production		
					Meal	Oil	Solubles
	Thousand short tons			Million pounds	Thousand tons	Million pounds	Thousand tons
1935	212.4	27.9	240.3	434.4	30.4	30.5	-
1936	243.8	43.7	287.5	516.1	42.4	36.6	-
1937	219.7	92.8	312.4	529.2	35.8	29.2	-
1938	205.2	39.9	245.1	517.5	39.3	31.4	-
1939	226.1	61.4	287.5	574.8	53.0	45.0	-
1940	193.2	46.1	239.4	634.6	56.2	43.3	-
1941	236.8	32.8	269.8	775.1	75.3	45.3	-
1942	171.1	22.4	193.5	482.6	50.5	38.5	-
1943	190.4	3.2	193.6	615.6	65.4	43.0	-
1944	213.1	10.2	223.3	686.0	69.2	45.5	-
1945	200.7	3.1	203.8	759.1	77.5	62.5	-
1946	199.6	8.9	208.5	916.0	94.6	73.2	-
1947	186.4	8.6	195.0	948.2	98.6	63.6	-
1948	199.5	41.1	240.7	1,008.0	104.1	65.7	-
1949	237.2	52.2	289.4	1,072.6	113.4	62.2	-
1950	239.9	63.9	303.8	1,000.5	103.4	76.6	-
1951	209.7	128.5	338.2	1,103.9	115.5	94.0	-
1952	221.4	203.5	424.9	1,386.3	144.0	96.7	-
1953	238.8	131.5	370.3	1,683.4	174.8	133.7	39.0
1954	257.0	145.8	402.7	1,740.6	183.1	139.8	56.3
1955	264.5	98.0	362.5	1,848.3	190.6	159.2	61.9
1956	295.1	90.4	386.2	2,076.6	210.6	168.2	72.9
1957	264.1	81.2	345.3	1,681.6	172.4	118.5	69.4
1958	248.1	100.4	348.5	1,544.7	158.1	128.0	72.5
1959	306.6	132.9	439.5	2,193.9	223.9	154.7	108.1
1960	290.1	131.6	421.7	1,999.0	218.4	183.4	65.8
1961	311.3	217.8	529.1	2,290.0	247.6	235.2	73.3
1962	312.3	252.3	564.6	2,227.3	239.7	232.6	85.2
1963	255.9	376.3	632.2	1,787.6	184.2	167.6	74.8
1964	235.3	439.1	674.4	1,530.6	160.3	157.7	68.7
1965	254.0	270.7	514.7	1,651.0	176.0	175.2	73.2
1966	223.1	447.8	670.9	1,275.6	135.0	144.2	60.8
1967[3/]	185.4[4/]	651.5	836.9	1,135.5	119.1	98.4	51.5

[1/] Figures may not add because of rounding.

[2/] Includes meal made from shellfish.

[3/] Preliminary.

[4/] Excludes meal made from shellfish.

INDUSTRIAL FISHERY PRODUCTS

Situation and Outlook

Approved by the Bureau of Commercial Fisheries Situation and Outlook Board, April 9, 1968

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SUMMARY

1967 REVIEW

Fish Meal

Total U.S. fish meal production in 1967 is estimated by the Bureau of Commercial Fisheries to be 185,400 short tons, down 12 percent from 1966 production and down 24 percent from the average production for 1962-66. Most of this production decline was due to a decrease in menhaden meal production, which in turn was tied to decreased menhaden landings. Menhaden meal production decreased from 135,000 short tons in 1966 to an estimated 119,100 tons in 1967.

The United States imported 651,500 short tons of fish meal in 1967, 45 percent more than the amount imported in 1966, and 82 percent over the 1962-66 average. Sixty-eight percent of the imports came from Peru in 1967, compared to 62 percent in 1966 and an average of 73 percent for the period 1962-66. Seventeen percent of total United States imports came from Norway in 1967, compared to 5 percent in 1966.

With the increase in imports more than offsetting the decrease in production, total U.S. supplies of fish meal (production plus imports) in 1967 were estimated at 836,900 short tons, 27 percent over the 1966 total, and 39 percent over the average total for 1962-66. Imports accounted for 78 percent of total supplies in 1967, compared to 68 percent in 1966 and an average of 59 percent for 1962-66.

In 1967, member countries of the Fishmeal Exporters Organization (F.E.O.)[1/] produced 2,930,500 metric tons of fish meal, 14 percent more than that produced in 1966. Exports from F.E.O. countries in 1967 (only 9 months for Angola) totaled 2,609,500 metric tons, with 21 percent of these exports coming to the United States. The biggest producer and exporter in F.E.O. is Peru, which produced 1,816,000 metric tons in 1967, or 62 percent of total F.E.O. production. Peru exported 1,560,900 metric tons in 1967, with 26 percent of these exports coming to the United States.

Fish meal stocks held by F.E.O. countries totaled 808,900 metric tons on January 1, 1968, compared to the 651,400 metric tons held on January 1, 1967. Peru held 74 percent of the stocks on January 1, 1968, and 58 percent on January 1 a year ago.

Broilers are the major consumers of fish meal. Therefore, the number of broiler chicks placed on feed provides an indication of the potential demand for fish meal. In 1967, 2,595 million broiler chicks were placed on feed in the 22 major broiler-producing States, nearly the same as the number placed in 1966. Average broiler prices at the farm level in 1967 ranged from 11.5 cents per pound in November to 15.4 cents per pound in February, and averaged 13.3 cents for the year. The average broiler price in 1966 was 15.3 cents per pound.

In 1967, the price of menhaden meal as quoted at New York City, ranged from $131.60 per short ton (f.o.b. east coast ports) in December to $154.00 in February and March, and averaged $140.15 per ton for the year. The average menhaden meal price in 1966 was $163.65 per short ton.

The average price of Peruvian fish meal at New York City in 1967 dropped from $148.20 per short ton in January to $121.00 per ton in November and December. The average price for the year was $130.85 per short ton, compared to an average price of $157.40 per ton in 1966.

Fish Oil

The United States produced 119.6 million pounds of fish oil in 1967--down 27 percent from 1966, and down 39 percent from the 1962-66 average. Oil produced from menhaden was 98.4 million pounds in 1967, or 82 percent of total fish oil production. U.S. fish oil stocks at the end of 1967 totaled 80 million pounds, 19.4 million pounds less than the amount held at the end of 1966.

Industrial consumption of fish oil was 35.8 million pounds in 1967--down 8 percent from 1966, and down 27 percent from the 1962-66 average.

The United States exported 76.8 million pounds of fish oil in 1967, compared to 77.3 million pounds in 1966. Most (48 percent) of U.S. fish

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[1/] Members of the Fishmeal Exporters Organization are Angola, Chile, Iceland, Norway, Peru, South Africa, and South West Africa.

oil exports went to the Netherlands in 1967; 27 percent went to Sweden and 10 percent to West Germany.

In 1967, the average monthly price of menhaden oil at New York City dropped from 8.9 cents per pound in January to 6.0 cents per pound in December. Average annual price was 7.0 cents per pound in 1967, compared to 9.4 cents in 1965 and 1966.

Fish Solubles

An estimated 73,700 short tons of fish solubles were produced in the United States last year, compared to 83,400 short tons in 1966. Fish solubles imports in 1967 totaled 3,700 short tons, down 14 percent from the 4,300 tons imported in 1966. Total fish solubles available for consumption in 1967 (excluding stocks which are not reported) was 77,400 short tons, down 12 percent from 1966.

In 1967, the average monthly price of menhaden solubles f.o.b. east coast plants dropped from $80.85 per short ton in January to $60.00 per ton in November and December. The average price for 1967 was $66.05 per short ton, compared to $71.30 per ton in 1966.

OUTLOOK

APRIL-JUNE 1968

Fish Meal

Landings of menhaden and anchovy are expected to be lower during the second quarter of 1968 than landings in the second quarter of 1967. Domestic fish meal production during the second quarter is estimated to be about 45,000 short tons. Large quantities of fish meal should be available from abroad. It is estimated that the United States will import at least 175,000 short tons of fish meal, with about 75 percent coming from Peru.

The number of broiler chicks on feed during the second quarter of 1968 is expected to be 1 to 3 percent less than the number on feed the second quarter of 1967. Therefore, the consumption of fish meal by broilers during the second quarter of 1968 is expected to be down slightly from consumption a year ago. However, given the limitation established by the number of animal consuming units and by the maximum amount of fish meal permitted in an animal diet, the current ratio between the price of fish meal and the price of soybean meal favors the consumption of fish meal. Between 225,000 and 275,000 short tons of fish meal are expected to be consumed in the United States during the second quarter of 1968.

Fish Oil

For the second quarter of 1968, production of menhaden oil is expected to be about 25 million pounds, while total U.S. production of fish oil is estimated at 30 million pounds. Industrial consumption during the second

quarter is expected to be around 10 million pounds. During the first quarter of 1968, the average price of menhaden oil was 6 cents per pound (f.o.b. east coast plants), 3 cents per pound below the average price for the first quarter of 1967.

Fish Solubles

U.S. production of fish solubles is estimated to be about 20,000 short tons in the second quarter of 1968. Imports are expected to be 2,000 tons, making the total quantity available (excluding stocks) about 22,000 short tons.

1967 REVIEW

MENHADEN LANDINGS

Lowest Landings in 16 Years

Menhaden landings used for reduction in 1967 are estimated at 1,136 million pounds--down 11 percent from 1966, and down 33 percent from the 1962-66 average (table 1). The 1967 landings are the lowest since 1951 when they were 1,103 million pounds.

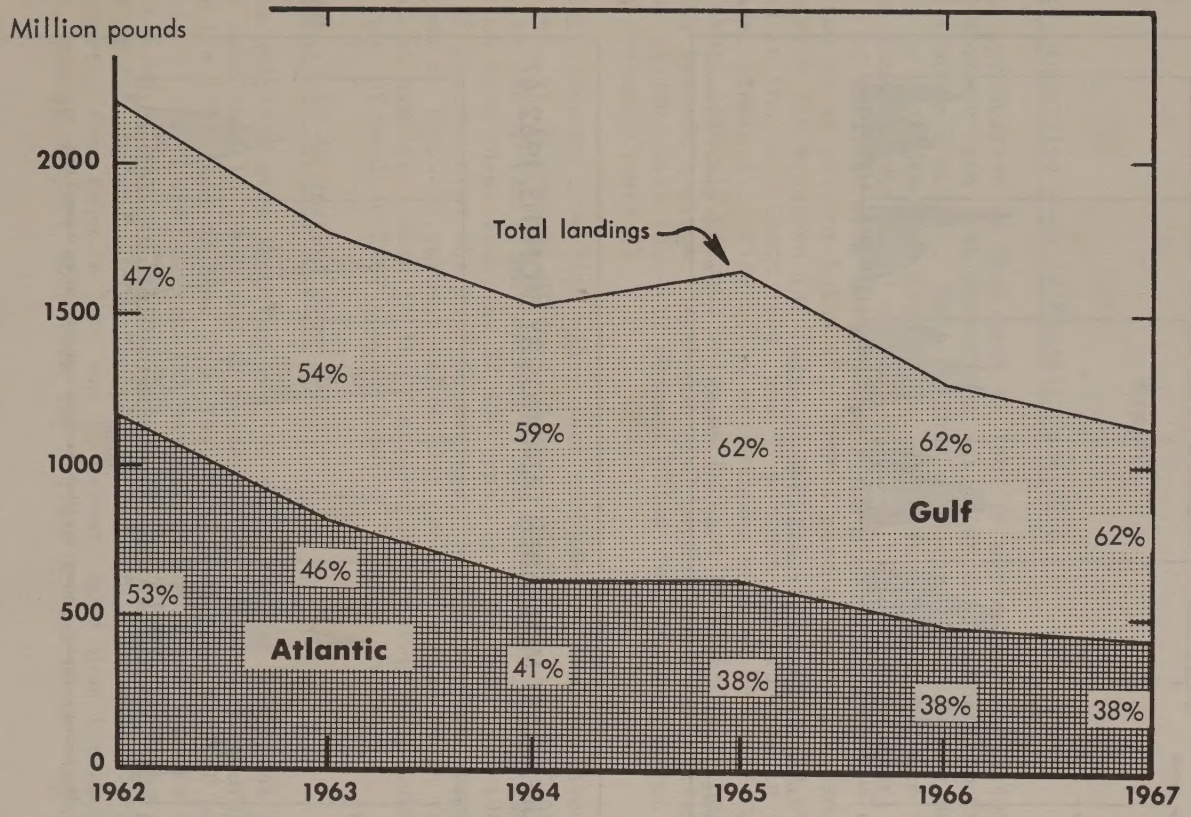
Sixty-two percent of the menhaden, or 701 million pounds, were caught off the Gulf Coast (table 1). This percentage is the same as in 1966 but greater than the 1962-66 average of 56 percent. Within the Atlantic Coast region, the Cheaspeake area (Virginia) had the highest landings with 203 million pounds (table 1).

Table 1.--Menhaden landings by area, 1966 1967, and 1962-66 average

Area	1962-66 average		1966		1967[1/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
New England	4.1	0.2	--	--	--	--
Middle Atlantic	265.3	15.7	17.0	1.3	38.2	3.4
Chesapeake	283.2	16.7	252.4	19.8	203.0	17.9
South Atlantic	193.3	11.4	214.1	16.8	193.5	17.0
Total Atlantic	745.9	44.0	483.5	37.9	434.7	38.3
Gulf Coast	948.6	56.0	792.1	62.1	700.8	61.7
Total U.S.	1,694.5	100.0	1,275.6	100.0	1,135.5	100.0

[1/] Preliminary.

MENHADEN LANDINGS BY AREA, WITH PERCENTAGE BREAKDOWN, 1962-67



U.S. Department of the Interior Neg. Econ. 228-68(3) Bureau of Commercial Fisheries

Figure 1

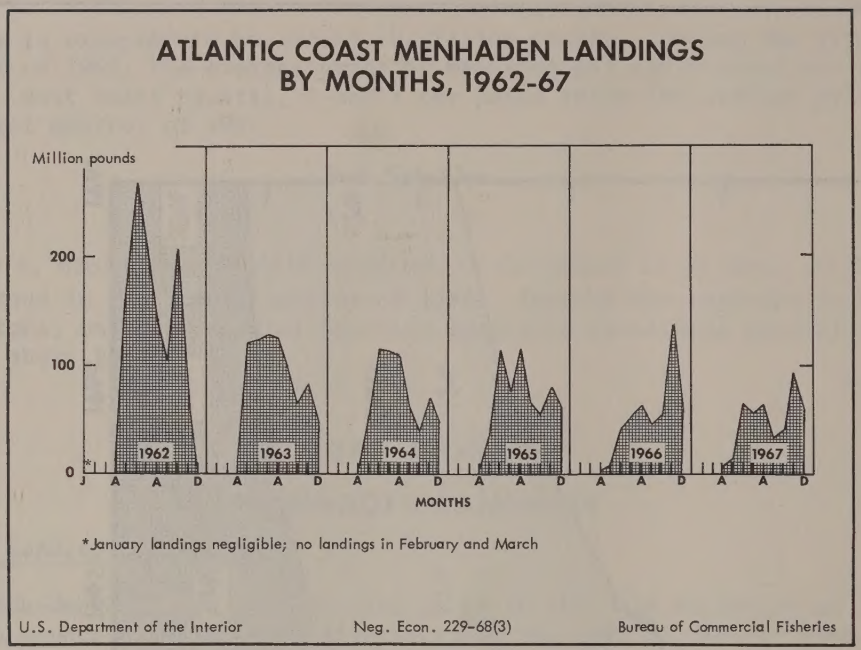


Figure 2

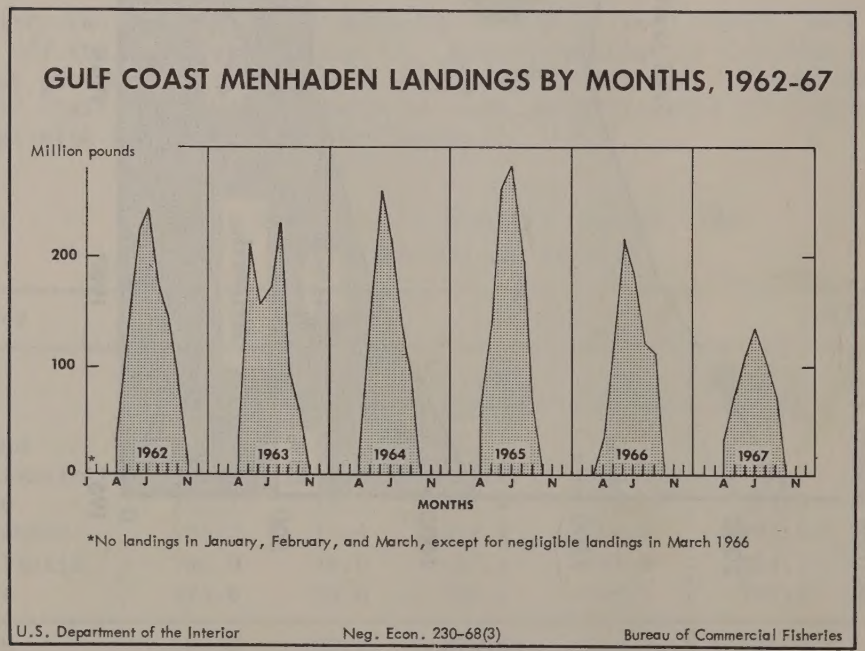


Figure 3

FISH MEAL

Supply

Domestic Production Down 12 Percent From 1966

U.S. production of fish meal in 1967 is estimated at 185,400 short tons--down 12 percent from 1966 production, and down 24 percent from the 1962-66 average (tables 2 and 3). Most of this production decline was due to a decrease in menhaden meal production, which in turn was tied to the lower menhaden landings described above. In 1967, 119,100 short tons, or 64 percent, of the fish meal was produced from menhaden (table 3). This production is 12 percent below 1966 and 33 percent below the 1962-66 average. In line with the menhaden landings, 61 percent of the menhaden meal was produced in the Gulf Coast area, and 39 percent was produced in the Atlantic Coast area (table 4). Production of menhaden meal on the Gulf Coast was 72,200 short tons--12 percent below production in 1966 and 27 percent below the 1962-66 average. Menhaden meal production in the Atlantic Coast area was 46,900 short tons--12 percent below 1966 and 41 percent below the 1962-66 average (table 4).

Meal produced from fish other than menhaden in 1967 amounted to 66,300 short tons, or 36 percent of total production (table 3). Most of this production was in the "tuna, mackerel, and anchovies" classification in table 3. Production from these fish was 32,400 tons, up 9 percent over 1966 production and up 25 percent over the 1962-66 average. Meal made from herring was 9,300 short tons in 1967--21 percent below 1966 production and about the same as the 1962-66 average. Fish in the "unclassified" category accounted for 12,200 tons of meal in 1967 compared to 24,700 tons in 1966.

U.S. Imports Up 45 Percent Over 1966

The United States imported 651,500 short tons of fish meal in 1967--45 percent more than in 1966, and 82 percent over the 1962-66 average (table 5). Most of the 1967 imports came from Peru, which shipped 442,500 short tons of fish meal to the United States--68 percent of the total imports (table 6). Peru provided 62 percent of the imports in 1966, and an average of 73 percent of the imports during the period 1962-66. The 442,500 tons of fish meal imported from Peru in 1967 was 60 percent more than the amount imported in 1966, and 69 percent more than the average annual amount imported during 1962-66.

Fish meal imports from Norway were 113,200 short tons in 1967, or 17 percent of total United States imports. In 1966, only 5 percent of the United States imports came from Norway (table 6). On the other hand, 20 percent of the imports came from Chile in 1966, whereas only 6 percent came from that country in 1967.

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Table 2.--U.S. production of fish meal by month, 1966, 1967, and 1962-66 average[1/]

Month	1962-66 average		1966		1967[2/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	2.7	1.1	2.8	1.3	6.5	3.5
February	2.8	1.1	2.3	1.1	3.8	2.0
March	3.9	1.6	5.7	2.7	4.5	2.4
April	9.6	3.9	11.0	5.2	9.0	4.9
May	31.6	13.0	19.8	9.4	15.5	8.4
June	46.1	18.9	36.8	17.4	30.6	16.5
July	45.2	18.5	36.5	17.3	33.2	17.9
August	38.2	15.7	31.3	14.8	31.0	16.7
September	24.7	10.1	23.2	11.0	17.2	9.3
October	17.2	7.1	10.9	5.2	11.0	5.9
November	13.1	5.4	18.9	8.9	14.0	7.6
December	8.5	3.5	12.0	5.7	9.1	4.9
Total[3/]	243.7	100.0	211.3	100.0	185.4	100.0

[1/] Excludes meal made from shellfish.

[2/] Preliminary.

[3/] Figures may not add to total because of rounding.

Table 3.--U.S. production of fish meal by raw material source, 1966, 1967, and 1962-66 average

Source	1962-66 average		1966		1967[1/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
Alewives	1.2	0.5	3.7	1.8	4.5	2.4
Groundfish	3.4	1.4	6.3	3.0	7.9	4.3
Herring	9.3	3.8	11.8	5.6	9.3	5.0
Menhaden[2/]	179.0	73.5	135.0	63.8	119.1	64.2
Tuna, mackerel, and anchovies	25.1	10.3	29.8	14.1	32.4	17.5
Unclassified	25.7	10.5	24.7	11.7	12.2	6.6
Total	243.7	100.0	211.3	100.0	185.4	100.0

[1/] Preliminary.

[2/] Includes a small quantity of other species.

Table 4.--Production of menhaden meal by area and by month, 1966, 1967, and 1962-66 average[1/]

Month	1962-1966 average		1966		1967[2/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
	Atlantic Coast					
January	0.2	0.2	0.5	0.9	0.4	0.8
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April	0.7	0.9	0.2	0.4	0.6	1.3
May	8.3	10.4	1.1	2.1	1.9	4.0
June	14.6	18.2	4.6	8.7	6.6	14.1
July	12.6	15.7	6.0	11.3	6.0	12.8
August	11.7	14.6	7.2	13.6	6.8	14.5
September	8.5	10.6	5.8	10.9	3.6	7.7
October	9.3	11.6	5.7	10.8	4.4	9.4
November	9.2	11.5	14.8	27.9	10.4	22.2
December	5.0	6.3	7.1	13.4	6.2	13.2
Total[3/]	80.0	100.0	53.0	100.0	46.9	100.0
	Gulf Coast					
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	0.1	0.1	-	-
April	3.9	4.0	3.7	4.5	3.7	5.1
May	16.2	16.4	12.9	15.8	8.4	11.7
June	23.5	23.8	22.5	27.5	16.7	23.2
July	22.9	23.1	18.9	23.1	18.6	25.8
August	18.0	18.2	12.4	15.1	16.4	22.7
September	10.9	11.0	11.4	13.9	7.5	10.4
October	3.3	3.3	-	-	0.8	1.1
November	0.2	0.2	-	-	-	-
December	-	-	-	-	-	-
Total[3/]	99.0	100.0	81.9	100.0	72.2	100.0
	Total[3/]					
January	0.2	0.1	0.5	0.4	0.4	0.3
February	-	-	-	-	-	-
March	-	-	0.1	0.1	-	-
April	4.6	2.6	3.8	2.8	4.3	3.6
May	24.4	13.6	14.0	10.4	10.3	8.7
June	38.1	21.3	27.1	20.1	23.3	19.6
July	35.6	19.9	24.9	18.4	24.6	20.6
August	29.8	16.7	19.7	14.6	23.2	19.5
September	19.4	10.8	17.2	12.8	11.1	9.3
October	12.6	7.0	5.7	4.2	5.3	4.5
November	9.3	5.2	14.8	11.0	10.4	8.7
December	5.0	2.8	7.1	5.2	6.2	5.2
Total[3/]	179.0	100.0	135.0	100.0	119.1	100.0

[1/] Includes a small amount of meal from other species. [2/] Preliminary.
[3/] Figures may not add to total because of rounding.

Table 5.--U.S. imports of fish meal by month, 1966
1967, and 1962-66 average

Month	1962-66 average		1966		1967	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	21.2	5.9	15.3	3.4	42.0	6.4
February	29.0	8.1	25.2	5.6	44.4	6.8
March	37.3	10.4	33.6	7.5	74.1	11.4
April	37.6	10.5	39.5	8.8	50.0	7.7
May	36.3	10.2	35.0	7.8	39.0	6.0
June	33.9	9.5	45.6	10.2	40.6	6.2
July	33.1	9.3	49.0	10.9	47.6	7.3
August	36.4	10.2	59.4	13.3	74.8	11.5
September	26.6	7.5	43.3	9.7	55.7	8.5
October	20.8	5.8	35.4	7.9	50.1	7.7
November	19.3	5.4	35.7	8.0	63.0	9.7
December	25.6	7.2	30.8	6.9	70.2	10.8
Total[1/]	357.2	100.0	447.8	100.0	651.5	100.0

[1/] Figures may not add to total because of rounding.

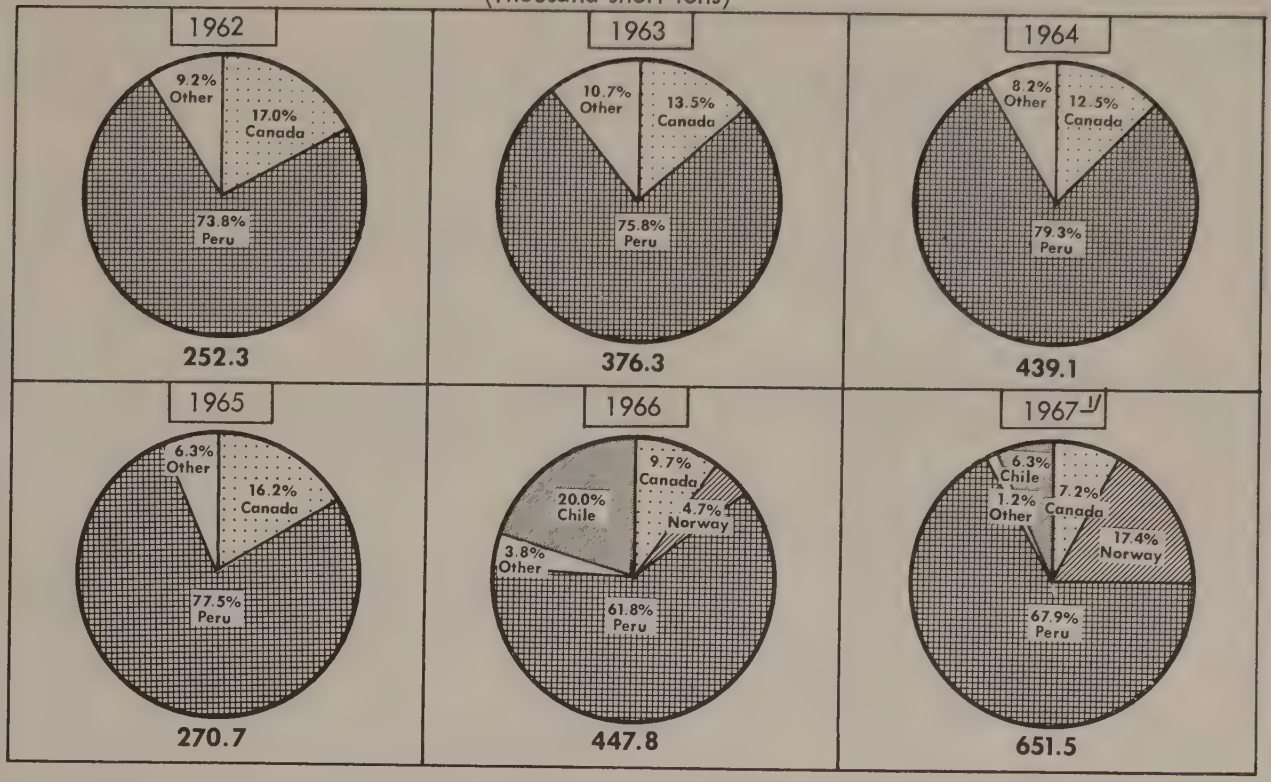
Table 6.--U.S. imports of fish meal by country of origin,
1966, 1967, and 1962-66 average

Country of origin	1962-66 average		1966		1967	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
Canada	47.2	13.2	43.6	9.7	46.6	7.2
Chile	28.2	7.9	89.4	20.0	40.9	6.3
Norway	4.6	1.3	21.0	4.7	113.2	17.4
Peru	261.2	73.1	276.6	61.8	442.5	67.9
South and South West Africa	10.5	3.0	6.6	1.5	--	--
Other	5.5	1.5	10.5	2.3	8.1	1.2
Total[1/]	357.2	100.0	447.8	100.0	651.5	100.0

[1/] Figures may not add to total because of rounding.

U.S. FISH MEAL IMPORTS BY SOURCE, 1962-67

(Thousand short tons)



1/ Preliminary

U.S. Department of the Interior Neg. Econ. 231-68(3) Bureau of Commercial Fisheries

Figure 4

Total U.S. Supplies of Fish Meal Up 27 Percent Over 1966

In 1967, U.S. fish meal production and imports totaled 836,900 short tons--an increase of 27 percent over 1966 and 39 percent over the average for 1962-66 (table 7). So, even though 1967 domestic production was below 1966, the increase in imports was enough to create an increase in total supplies. Imports accounted for 78 percent of total supplies in 1967, compared to 68 percent in 1966 and an average of 59 percent for 1962-66 (table 8).

Table 7.--Total fish meal available in the United States: production plus imports, by month, 1966, 1967, and 1962-66 average[1/]

Month	1962-66 average		1966		1967[2/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	23.9	4.0	18.1	2.7	48.5	5.8
February	31.8	5.3	27.5	4.2	48.2	5.8
March	41.2	6.8	39.2	5.9	78.6	9.4
April	47.3	7.8	50.6	7.7	59.0	7.0
May	67.8	11.3	54.8	8.3	54.4	6.5
June	80.0	13.3	82.5	12.5	71.2	8.5
July	78.4	13.1	85.4	13.0	80.8	9.7
August	74.6	12.5	90.7	13.8	105.8	12.6
September	51.3	8.5	66.5	10.1	72.8	8.7
October	38.1	6.3	46.3	7.0	61.1	7.3
November	32.4	5.4	54.6	8.3	77.1	9.2
December	34.1	5.7	42.8	6.5	79.3	9.5
Total[3/]	600.9	100.0	659.1	100.0	836.9	100.0

[1/] Excludes meal made from shellfish.
[2/] Preliminary.
[3/] Figures may not add to total because of rounding.

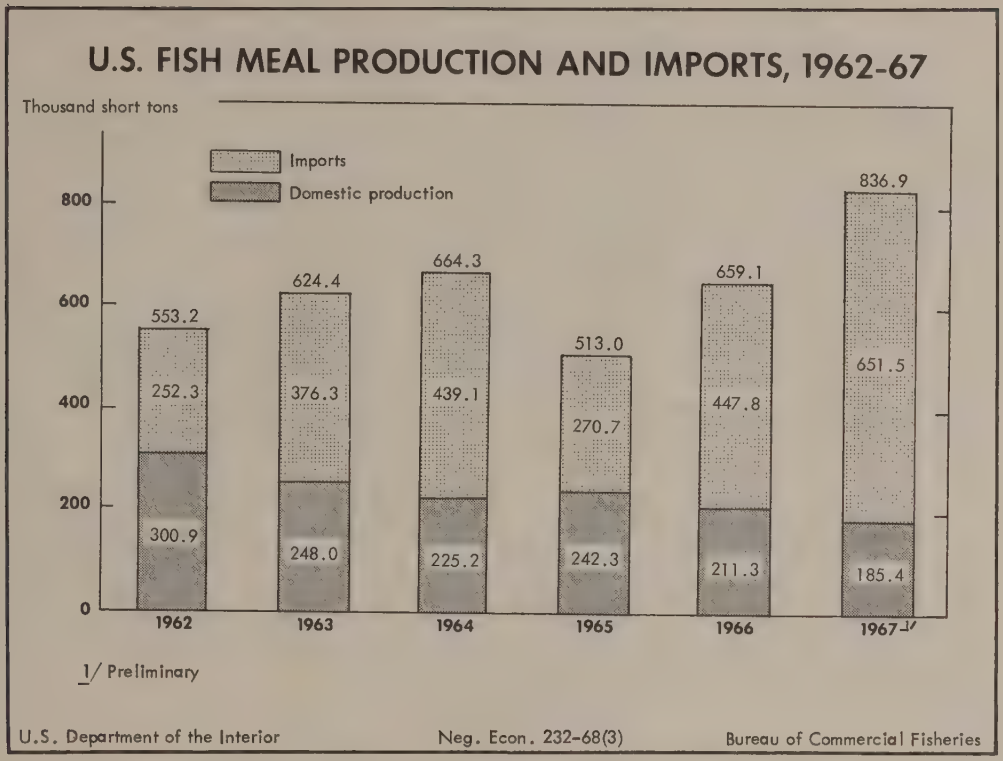


Figure 5

Table 8.--Percentage of total fish meal available in the United States that is imported, by month, 1960-67

Month	1960	1961	1962	1963	1964	1965	1966	1967
	Percent							
January	69.4	77.9	89.6	88.8	93.7	83.2	84.5	86.6
February	72.3	87.2	83.9	93.3	93.8	89.8	91.6	92.1
March	85.3	87.6	81.4	93.7	92.8	93.4	85.7	94.3
April	63.0	75.8	73.8	76.1	87.3	77.8	78.1	84.7
May	32.4	42.1	38.4	42.3	65.0	54.8	63.9	71.7
June	20.2	26.2	30.2	33.9	41.4	47.8	55.3	57.0
July	18.9	22.8	31.5	51.6	39.0	27.2	57.4	58.9
August	13.9	24.8	40.9	48.8	52.1	24.8	65.5	70.7
September	19.8	32.6	30.0	58.6	59.9	24.2	65.1	76.5
October	34.2	36.7	26.0	63.0	69.6	28.2	76.4	82.0
November	36.1	71.7	53.9	56.4	70.6	32.0	65.4	81.7
December	62.9	64.5	87.6	74.8	83.1	52.9	72.0	88.5
Average 1/	32.7	42.8	45.6	60.3	66.1	52.8	67.9	77.8

1/ Weighted average.

F.E.O. Fish Meal Production, Exports, and Stocks

In 1966, members of F.E.O. (Fishmeal Exporters Organization) accounted for 59 percent of total world fish meal production (table 9). In 1967, F.E.O. members produced an estimated 2,930,500 metric tons of fish meal, 14 percent more than that produced in 1966. Although 1967 figures for world production are not yet available, between 60 and 65 percent of this production probably will be accounted for by F.E.O. countries.

Exports from F.E.O. countries, excluding the last 3 months for Angola, are estimated at 2,609,500 metric tons, with 21 percent of these exports coming to the United States (table 10). The biggest producer and exporter within F.E.O. is Peru, which produced 1,816,000 metric tons in 1967, or 62 percent of total F.E.O. production (table 9). Peru exported 1,560,900 metric tons in 1967, or 60 percent of total F.E.O. exports. Twenty-six percent of Peru's exports came to the United States in 1967, compared to 19 percent in 1966, and 15 percent in 1965 (table 11).

Table 9.--F.E.O.[1/] and total world production of fish meal, 1965, 1966, and 1967

Country	1965		1966		1967 [2/]	
	Thousand metric tons	Percent	Thousand metric tons	Percent	Thousand metric tons	Percent
Angola	47.7	2.2	54.7	2.1	[3/] 34.2	1.2
Chile	70.4	3.3	194.2	7.5	130.9	4.4
Iceland	172.1	8.0	181.8	7.1	112.8	3.8
Norway	309.1	14.4	421.7	16.3	491.6	16.8
Peru	1,282.0	59.5	1,470.5	57.0	1,816.0	62.0
South and South West Africa	272.0	12.6	257.6	10.0	345.1	11.8
Total F.E.O.[4/]	2,153.3	100.0	2,580.5	100.0	2,930.5	100.0
Total world	3,865.0	-	4,354.0	-	N.A.	-
Percent F.E.O. is of world	55.7	-	59.3	-	-	-

[1/] Fishmeal Exporters Organization; members are those countries listed in the table.

[2/] Preliminary.

[3/] Angola: January - September production.

[4/] Figures may not add to total because of rounding.

Table 10.--Total F.E.O.[1] exports of fish meal, and F.E.O. exports coming to the United States, by month, 1965, 1966, and 1967

Month	1965			1966			1967[2]		
	Total F.E.O. exports	F.E.O. exports coming to the United States[3]		Total F.E.O. exports	F.E.O. exports coming to the United States[3]		Total F.E.O. exports	F.E.O. exports coming to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
January	215.4	11.8	5.5	198.2	8.0	4.0	180.3	34.2	19.0
February	164.2	19.7	12.0	173.7	19.3	11.1	203.5	36.0	17.7
March	244.8	43.6	17.8	208.8	26.3	12.6	190.6	62.2	32.6
April	222.4	32.2	14.5	181.4	32.6	18.0	198.5	41.5	20.9
May	212.8	24.9	11.7	165.3	27.6	16.7	231.1	31.6	13.7
June	189.0	36.5	19.2	184.9	37.6	20.3	234.1	33.6	14.4
July	173.6	12.8	7.4	191.4	39.5	20.6	214.0	39.2	18.3
August	122.7	8.6	7.0	164.2	48.6	29.6	224.2	63.1	28.1
September	93.5	2.7	3.0	156.2	35.7	22.8	194.9	45.3	23.2
October	82.3	0.5	0.6	156.5	28.5	18.2	[4]215.0	40.4	18.8
November	106.4	1.7	1.6	141.3	30.0	21.2	[4]247.0	52.9	21.4
December	185.1	5.2	2.8	226.8	23.9	10.5	[4]276.3	61.3	22.2
Total[5]	2,012.2	200.2	9.9	2,148.7	357.7	16.6	2,609.5	541.3	20.7

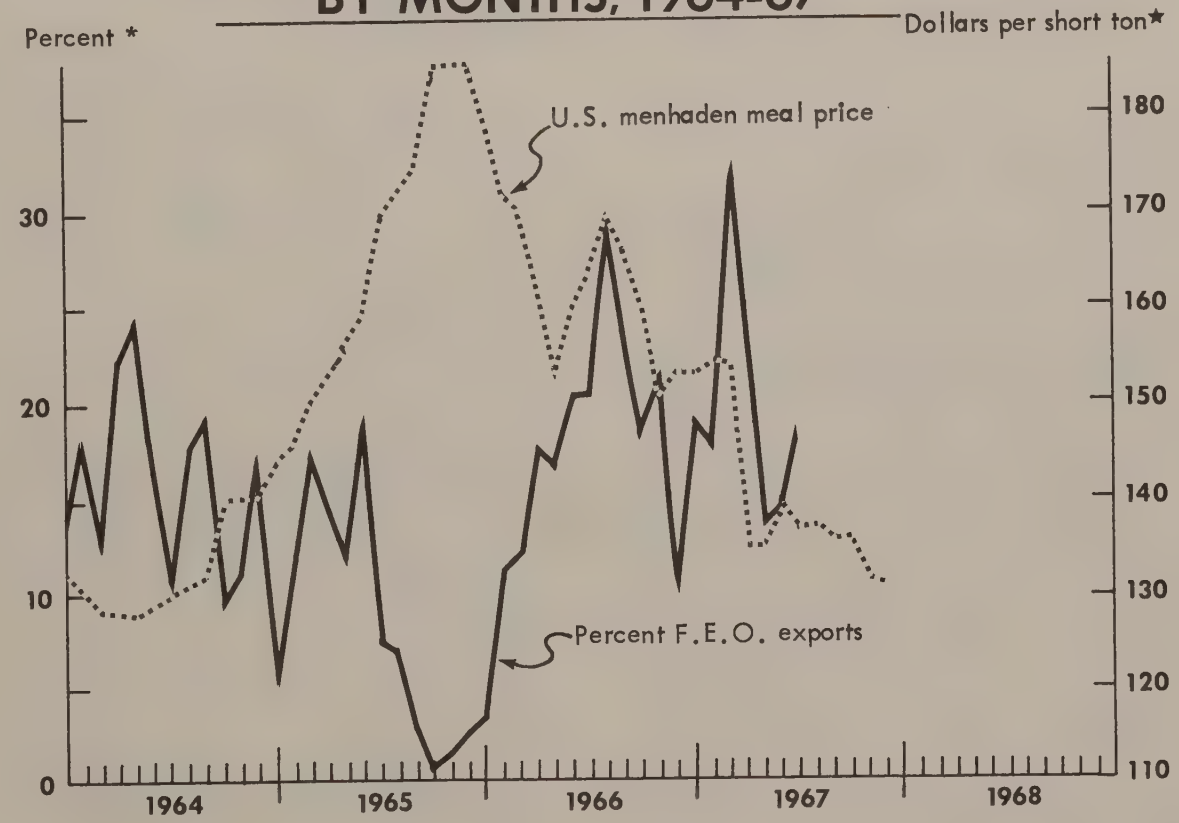
[1] Fishmeal Exporters Organization; members are those countries listed in table 9.
[2] Preliminary.
[3] Based on imports of fish meal from F.E.O. countries as reported by the U.S. Department of Commerce, Bureau of Census.
[4] Does not include exports for Angola.
[5] Figures may not add to total because of rounding.

Table 11.--Total F.E.O.[1] exports of fish meal, and F.E.O. exports coming to the United States, by member country, 1965, 1966, and 1967

Country	1965			1966			1967[2]		
	Total exports	Exports coming to the United States[3]		Total exports	Exports coming to the United States[3]		Total exports	Exports coming to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
Angola	49.2	-	-	53.6	0.5	0.9	[4] 28.9	-	-
Chile	63.6	5.1	8.0	185.9	81.1	43.6	111.2	37.1	33.4
Iceland	146.2	-	-	172.7	-	-	135.0	-	-
Norway	268.2	0.1	-	266.4	19.1	7.2	487.5	102.7	21.0
Peru	1,260.0	190.3	15.1	1,304.5	251.0	19.2	1,560.9	401.5	25.7
South and South West Africa	224.9	4.6	2.0	165.6	6.0	3.6	286.0	-	-
Total[5]	2,012.2	200.2	9.9	2,148.7	357.7	16.6	2,609.5	541.3	20.7

[1] Fishmeal Exporters Organization: members are those countries listed in the table.
[2] Preliminary.
[3] Based on U.S. imports of fish meal from F.E.O. countries as reported by the U.S. Department of Commerce, Bureau of the Census.
[4] Angola: January - September only.
[5] Figures may not add to total because of rounding.

PERCENT OF F.E.O. FISH MEAL EXPORTS COMING TO THE UNITED STATES, AND U.S. MENHADEN MEAL PRICE, BY MONTHS, 1964-67



*Percent of F.E.O. exports coming to the United States

★U.S. menhaden meal price, F.O.B. east coast ports, New York quote

U.S. Department of the Interior Neg. Econ. 233-68(3) Bureau of Commercial Fisheries

Figure 6

Stocks of fish meal held by F.E.O. countries totaled 808,900 metric tons on January 1, 1968. This amount is 24 percent more than F.E.O. stocks held on January 1, 1967, and 126 percent more than stocks held on January 1, 1966 (table 12). Peru held 600,300 metric tons or 74 percent of F.E.O. fish meal stocks on January 1, 1968, compared to 375,200 metric tons or 58 percent of total F.E.O. stocks on January 1, 1967. Norway was the next highest holder of fish meal stocks on January 1 of this year, with 143,800 metric tons or 18 percent of total F.E.O. stocks (table 12).

Table 12.--F.E.O.[1/] fish meal stocks held January 1, 1966, 1967, and 1968

Country	1966		1967		1968[2/]	
	Thousand metric tons	Percent	Thousand metric tons	Percent	Thousand metric tons	Percent
Angola	2.7	0.8	2.8	0.4	N.A.	N.A.
Chile	17.5	4.9	16.1	2.5	19.5	2.4
Iceland	38.4	10.7	43.0	6.6	14.6	1.8
Norway	47.6	13.3	171.5	26.3	143.8	17.8
Peru	237.4	66.4	375.2	57.6	600.3	74.2
South and South West Africa	14.0	3.9	42.7	6.6	30.6	3.8
Total F.E.O.[3/]	357.7	100.0	651.4	100.0	808.9	100.0

[1/] Fishmeal Exporters Organization; members are those countries listed in the table.

[2/] Preliminary.

[3/] Figures may not add to total because of rounding.

Demand

1967 Broiler Placements Up Slightly Over 1966

The demand for fish meal is related to a number of factors, some of which are: (1) the number of livestock being produced during a given period of time; (2) the demand for commercially prepared feed for these livestock; and (3) the prices of competing feed ingredients. Broilers use most of the fish meal; they consume about 70 to 80 percent of all the fish meal available in the United States. Therefore, the number of broiler chicks on feed in a given period of time provides an indication of the potential demand for fish meal. In 1967, 2,595 million broiler chicks were placed on feed in the 22 major broiler-producing States--practically the same as in 1966 (table 13). An indication of the demand for broilers is the average price paid for those broilers. In 1967, broiler prices at the farm ranged from a high of 15.4 cents per pound in February, to a low of 11.5 cents per pound in November, and averaged 13.3 cents for the year (table 13). In 1966, the average price was 15.3 cents or 2 cents per pound more than the 1967 average.

Table 13.--Broiler chick placements in 22 States, and average broiler prices at the farm by month, 1965, 1966, and 1967

Month	1965		1966		1967[1/]	
	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price
	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.
January	204.8	14.6	191.6	16.3	192.0	13.9
February	179.2	15.1	199.0	16.4	204.1	15.4
March	185.2	15.6	201.3	17.2	217.6	14.3
April	244.7	15.0	269.6	15.8	272.9	13.8
May	202.4	15.4	217.8	16.7	217.6	13.3
June	201.0	15.7	216.6	16.1	214.8	13.5
July	240.9	15.5	262.0	16.1	259.7	14.7
August	179.1	15.2	192.6	15.7	199.9	12.9
September	166.7	14.5	187.0	14.6	224.7	12.6
October	209.3	14.2	235.3	13.2	175.0	12.2
November	175.2	14.6	188.8	13.5	185.7	11.5
December	180.3	14.6	232.7	12.0	230.8	11.6
Total placements[2/] and average price[3/]	2,368.8	15.0	2,594.4	15.3	2,594.8	13.3

[1/] Preliminary.

[2/] Figures may not add to total because of rounding.

[3/] Simple average.

Sources: Commercial Broilers: Annual Production and Weekly Placements, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Broilers Consume 2 Percent More Feed in 1967 Than in 1966

According to U.S. Department of Agriculture estimates, broilers consumed 12,036,000 tons of feed in 1967, an increase of 2 percent over 1966. If 70 to 80 percent of the fish meal available in the United States is used in broiler rations, then 4.9 to 5.6 percent of the 1967 ration was fish meal. If the 70 to 80 percent figure is used for 1966, then 3.9 to 4.5 percent of the broiler ration was fish meal in that year. The increase in use of fish meal from 1966 to 1967 can be attributed to the decrease in the average price of menhaden and Peruvian fish meal (see next section), and to the decrease in the ratio between average fish meal price and the average price of major competing feed components, such as soybean meal.

Prices

Menhaden Meal Price Lowest in Over 3 Years

The average price of menhaden meal (bagged, 60 percent protein) at New York City in December 1967 was $131.60 per short ton f.o.b. east coast ports (table 14). This price along with prices for February, March, and November were nominal--quoted but few or no sales. The last time menhaden meal sold at this price was in September 1964. In 1967, the price of menhaden meal ranged from $131.60 per short ton in December to $154.00 in February and March, and averaged $140.15 per ton for the year. In 1966, the price ranged from $151.55 per ton in November to $179.80 in January, with an annual average of $163.65 (table 14).

Table 14.--Average monthly price of menhaden meal[1/] f.o.b. east coast ports, 1962-67

Month	1962	1963	1964	1965	1966	1967
	Dollars per short ton					
January	120.40	131.35	132.00	144.15	2/179.80	153.10
February	122.00	129.00	130.00	146.25	2/172.50	2/154.00
March	123.00	126.15	128.25	150.00	2/170.60	2/154.00
April	124.00	126.50	128.00	153.00	2/163.00	135.00
May	125.25	125.00	128.25	156.00	2/153.80	135.80
June	123.00	125.00	129.80	160.90	160.35	139.00
July	122.70	125.00	130.90	170.25	164.00	137.40
August	123.25	125.00	131.00	172.10	169.00	137.10
September	123.75	125.00	132.90	175.00	166.20	136.75
October	126.80	127.70	140.20	185.40	160.00	136.00
November	128.25	129.25	140.75	186.00	151.55	2/132.00
December	130.50	133.90	140.75	186.00	153.10	2/131.60
Average[3/]	124.40	127.40	132.75	165.40	163.65	140.15

1/60 percent protein, bagged, as quoted at New York City.

2/Nominal price as presented in the Oil, Paint and Drug Reporter.

3/Simple average.

Sources: U.S. Department of Interior, Bureau of Commercial Fisheries, and the Oil, Paint and Drug Reporter.

Peruvian Fish Meal Price Lowest in Over 4 Years

In December 1967, the average price of Peruvian fish meal was $121.00 per short ton f.o.b. east coast ports, the lowest price since September 1963 (table 15). The above price was quoted at New York City for meal containing 65 percent protein. The average price for the year was $130.85 per short ton, compared to an average price of $157.40 in 1966.

The low prices for menhaden and Peruvian anchoveta meal are the result of large stocks of fish meal being held in foreign countries, with Peru and Norway the major holders (table 12). Also, the rate of fish meal production has continued to increase and has added to the problem of large world stocks.

Table 15.--Average monthly price of Peruvian fish meal[1/] f.o.b east coast ports, 1962-67

Month	1962	1963	1964	1965	1966	1967
	Dollars per short ton					
January	114.70	128.00	133.25	141.60	173.00	148.20
February	121.75	123.00	133.25	144.90	170.90	140.00
March	125.10	121.90	132.40	142.70	165.80	134.50
April	130.50	118.50	126.00	148.40	153.75	130.50
May	127.70	118.90	126.10	153.75	155.40	127.70
June	120.00	118.10	125.70	166.50	155.50	131.25
July	119.10	117.80	130.00	172.90	161.00	131.60
August	118.75	115.85	132.90	181.00	161.00	131.50
September	120.90	117.10	134.70	182.50	152.25	128.90
October	126.20	122.75	140.00	184.90	143.10	124.30
November	136.40	123.25	141.50	186.00	144.80	121.00
December	126.75	130.40	141.50	180.25	152.50	121.00
Average[2/]	124.00	121.30	133.10	165.45	157.40	130.85

[1/] 65 percent protein, bagged, as quoted at New York City.

[2/] Simple average.

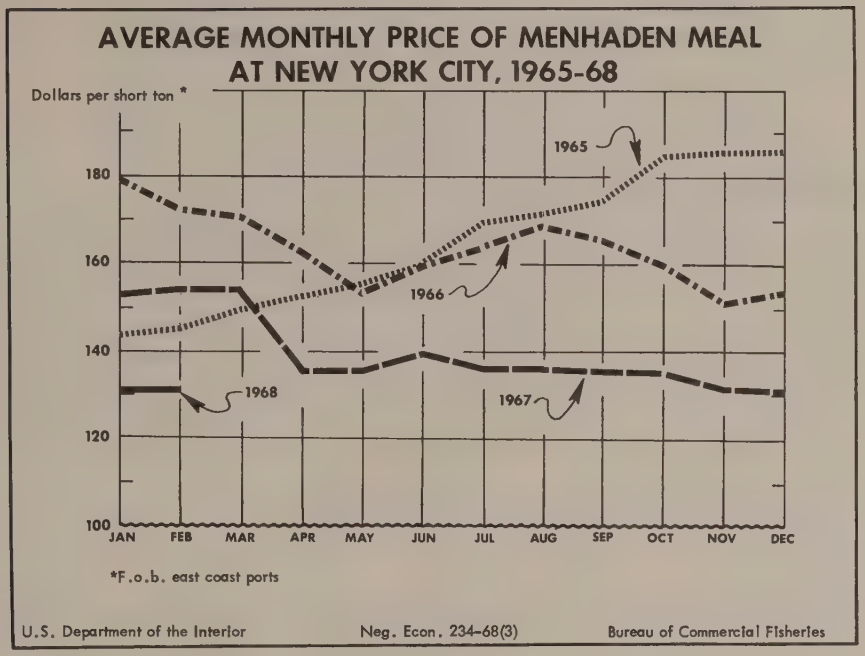


Figure 7

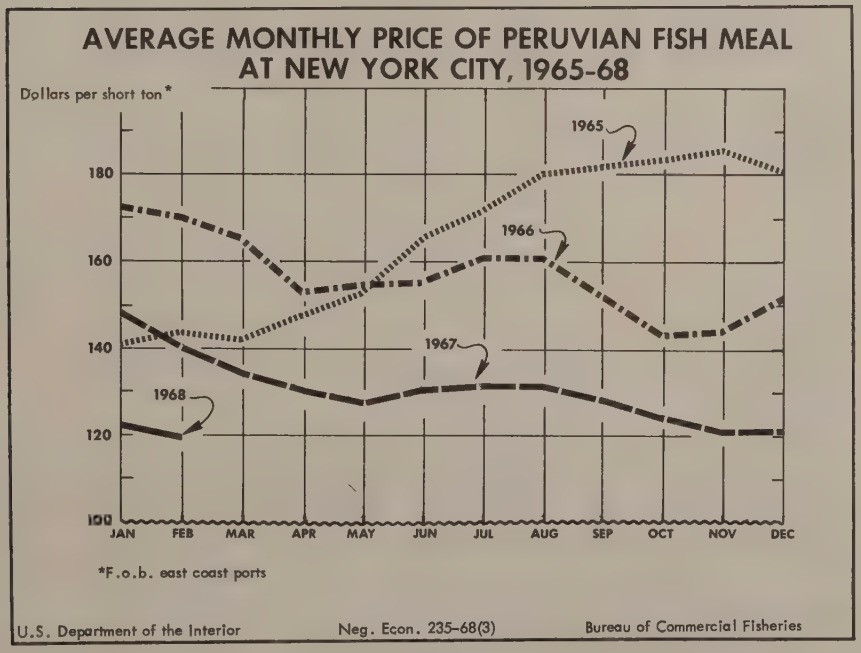


Figure 8

Average Soybean Meal Price for 1967 Down From 1966

Soybean meal is a major competitor of fish meal in the protein feed market. In 1967, the average price of soybean meal at New York City ranged from $94.80 per short ton in October to $105.40 per ton in January, with an annual average of $99.20 (table 16). In 1966, the annual average was $106.90, with average monthly prices ranging from $96.00 per ton in March to $121.90 per ton in July. Even though the average price of soybean meal declined from 1966 to 1967, the relative decline of the average price of fish meal was greater, making fish meal a better buy than soybean meal.

Table 16.--Average monthly price of soybean meal[1/] at New York City, 1962-67

Month	1962	1963	1964	1965	1966	1967
	Dollars per short ton					
January	N.A.	93.60	100.20	90.90	100.50	105.40
February	N.A.	93.90	97.20	93.30	101.40	100.90
March	N.A.	91.00	95.80	91.00	96.00	98.20
April	N.A.	90.80	94.20	93.20	97.30	96.60
May	N.A.	90.80	89.80	92.90	104.70	95.40
June	N.A.	92.80	88.40	99.60	117.70	101.60
July	N.A.	94.80	87.60	100.40	121.90	102.30
August	N.A.	98.50	86.10	96.30	119.80	99.60
September	N.A.	98.75	95.00	115.00	106.40	102.10
October	92.80	96.10	92.90	95.90	107.20	94.80
November	92.50	96.40	88.60	99.80	102.20	96.80
December	92.60	99.10	90.50	95.80	107.60	96.90
Average[2/]	N.A.	94.70	92.20	97.00	106.90	99.20

[1/] 50 percent protein, bulk.

[2/] Simple average.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service.

Table 17.--Average monthly price of soybean meal[1/] at Decatur, Ill., 1962-67

Month	1962	1963	1964	1965	1966	1967
	- - - - - - - - -Dollars per short ton- - - - - - - - -					
January	64.60	76.70	85.40	75.40	85.00	89.30
February	62.20	76.90	82.60	77.20	86.20	85.20
March	65.50	76.00	82.30	76.10	80.00	83.70
April	68.30	74.10	80.00	78.40	82.40	80.70
May	70.90	73.90	74.20	77.70	89.00	80.10
June	73.10	76.10	73.20	85.10	101.00	87.20
July	75.90	79.00	72.90	86.00	104.10	85.00
August	76.60	82.40	71.00	80.50	106.10	86.90
September	87.30	82.60	77.10	89.20	97.90	87.60
October	76.10	80.00	76.80	80.80	91.50	78.20
November	76.20	81.50	72.70	84.50	86.40	78.10
December	75.80	84.10	75.50	78.30	92.70	79.40
Average[2/]	72.70	78.60	77.00	80.75	91.85	83.45

[1/] 50 percent protein bulk.

[2/] Simple average.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service.

FISH OIL

Supply

U.S. Production of Fish Oil Down 27 Percent From 1966

In 1967, the United States produced 119.6 million pounds of fish oil--down 27 percent from the 164 million pounds produced in 1966 and down 39 percent from the 1962-66 average (table 18). Oil produced from menhaden in 1967 totaled 98.4 million pounds or 82 percent of total oil production (table 19). The 1966 production of menhaden oil was 144.2 million pounds or 88 percent of total production. Other fish yielding oil in 1967 were tuna, mackerel, and anchovies, which together accounted for 5 percent of total production, and herring, which accounted for 4 percent of production (table 19).

Table 18.--U.S. production of fish oil by month, 1966, 1967, and 1962-66 average

Month	1962-66 average		1966		1967[1/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
January	0.6	0.3	0.4	0.2	2.1	1.8
February	0.3	0.2	0.2	0.1	0.6	0.5
March	0.6	0.3	1.0	0.6	0.8	0.7
April	6.5	3.3	5.4	3.3	3.5	2.9
May	27.8	14.2	19.2	11.7	9.1	7.6
June	40.4	20.6	34.6	21.1	20.1	16.8
July	36.3	18.5	29.6	18.0	21.5	18.0
August	31.3	16.0	22.4	13.6	22.1	18.4
September	22.1	11.3	20.4	12.4	13.0	10.9
October	15.4	7.8	7.7	4.7	9.1	7.6
November	10.2	5.2	16.3	10.0	11.9	9.9
December	4.5	2.3	6.8	4.1	5.9	4.9
Total[2/]	196.0	100.0	164.0	100.0	119.6	100.0

[1/] Preliminary.
[2/] Figures may not add to total because of rounding.

Table 19.--U.S. production of fish oil by raw material source, 1966, 1967, and 1962-66 average

Source	1962-66 average		1966		1967[1/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Alewives	0.7	0.4	[2/]	[2/]	1.8	1.5
Groundfish	2.1	1.1	0.5	0.3	1.3	1.0
Herring	7.6	3.9	7.9	4.8	5.1	4.3
Menhaden[3/]	176.5	90.0	144.2	87.9	98.4	82.3
Tuna, mackerel, and anchovies	4.9	2.5	4.9	3.0	6.2	5.2
Unclassified	4.2	2.1	6.5	4.0	6.8	5.7
Total	196.0	100.0	164.0	100.0	119.6	100.0

[1/] Preliminary.
[2/] Included in "unclassified".
[3/] Includes a small quantity of other species.

End-of-Year Stocks Total 80 Million Pounds

U.S. stocks of fish oil at the end of 1967 totaled 80 million pounds--19.4 million pounds less than at the end of 1966. These stocks do not include sperm oil. Average end-of-month stocks were 92.1 million pounds in 1967 and 84.2 million pounds in 1966 (table 20).

Table 20.--U.S. stocks of fish oil at the end of the month, 1962-67[1/]

Month	1962	1963	1964	1965	1966	1967[2/]
	Million pounds					
January	87.9	113.3	60.4	68.6	85.4	97.2
February	79.2	115.5	47.0	55.2	75.0	90.8
March	69.6	88.2	42.2	50.4	60.5	62.2
April	66.8	59.8	43.9	54.6	60.3	73.4
May	91.1	77.3	46.7	69.0	63.1	97.4
June	107.7	97.4	55.5	80.9	64.7	100.7
July	128.9	87.4	66.8	103.3	80.4	102.4
August	110.8	96.0	78.0	136.2	87.9	103.2
September	123.7	95.9	87.7	110.9	111.0	95.9
October	133.3	76.8	66.9	101.7	102.1	102.4
November	119.6	123.9	75.2	111.4	120.0	99.4
December	125.9	96.9	70.9	100.4	99.4	80.0
Average	103.7	94.0	61.8	86.9	84.2	92.1

[1/] Includes mammal oil other than sperm oil, and includes hydrogenated fats and other fats and oils "in process."
[2/] Preliminary.

Source: U.S. Department of Commerce, Bureau of the Census Current Industrial Reports: Fats and Oils, Series M20k.

Demand

U.S. Consumption of Fish Oil Down 8 Percent From 1966

Fish oil can be used in the production of such items as paint, varnish, plastics, printing inks, lubricants, and soap. Industrial consumption of inedible fish oil was 35.8 million pounds in 1967, down 8 percent from the 38.8 million pounds consumed in 1966, and down 27 percent from the 1962-66 average (table 21).

Table 21.--U.S. industrial consumption of inedible fish oil, by month, 1966, 1967, and 1962-66 average [1/]

Month	1962-66 average		1966		1967 [2/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
January	3.9	7.9	2.4	6.2	2.9	8.1
February	3.9	7.9	3.5	9.0	2.8	7.8
March	3.9	7.9	3.3	8.5	2.8	7.8
April	4.2	8.5	3.5	9.0	4.1	11.4
May	4.1	8.3	3.7	9.5	3.1	8.7
June	4.6	9.3	3.8	9.8	3.3	9.2
July	3.9	7.9	2.7	7.0	3.0	8.4
August	4.5	9.1	3.7	9.5	3.1	8.7
September	4.4	8.9	3.9	10.1	3.2	8.9
October	4.1	8.3	2.5	6.4	2.4	6.7
November	3.8	7.7	2.7	7.0	2.5	7.0
December	3.9	7.9	3.1	8.0	2.6	7.3
Total [3/]	49.2	100.0	38.8	100.0	35.8	100.0

[1/] Includes mammal oil other than sperm oil.
[2/] Preliminary.
[3/] Figures may not add to total because of rounding.

Source: U.S. Department of Commerce, Bureau of the Census Current Industrial Reports: Fats and Oils, Series M20K.

1967 Exports Down Slightly From 1966

The United States exported 76.8 million pounds of fish oil in 1967, compared to 77.3 million pounds in 1966 and an average of 143.6 million pounds during 1962-66 (table 22). In 1966, 32 percent of United States fish oil exports went to the Netherlands, and 18 percent to the United Kingdom (table 23). In 1967, the percentage of United States exports to the Netherlands increased to 48 percent, but the percentage to the United Kingdom was cut in half--9 percent. Sweden took 27 percent of our oil exports, and West Germany took 10 percent. No oil was shipped to Norway in 1967, compared to 15 percent in 1966.

Table 22.--U.S. exports of fish oil by month, 1966 1967, and 1962-66 average

Month	1962-66 average		1966		1967[1/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
January	0.6	0.4	2.3	3.0	17.9	23.3
February	10.4	7.2	4.2	5.4	[2/]	-
March	17.0	11.8	9.9	12.8	10.5	13.7
April	12.4	8.6	0.1	0.1	[2/]	-
May	11.2	7.8	17.8	23.0	0.1	0.1
June	7.3	5.1	12.9	16.7	0.8	1.0
July	21.1	14.7	19.5	25.2	2.3	3.0
August	21.5	15.0	6.1	7.9	24.8	32.3
September	10.1	7.0	[2/]	-	10.2	13.3
October	20.6	14.3	4.3	5.6	5.7	7.4
November	0.1	0.1	0.1	0.1	2.2	2.9
December	11.3	7.9	0.1	0.1	2.3	3.0
Total[3/]	143.6	100.0	77.3	100.0	76.8	100.0

[1/] Preliminary.
[2/] Less than 50,000 pounds.
[3/] Figures may not add to total because of rounding.

Table 23.--U.S. exports of fish oil by country of destination, 1966, 1967, and 1962-66 average

Country	1962-66 average		1966		1967[1/]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Canada	4.4	3.0	1.4	1.8	0.3	0.4
Netherlands	26.8	18.7	24.5	31.7	37.1	48.3
Norway	12.2	8.5	11.4	14.7	-	-
Sweden	41.9	29.2	6.6	8.5	20.4	26.6
United Kingdom	29.7	20.7	14.3	18.5	6.6	8.6
West Germany	20.8	14.5	9.4	12.2	8.1	10.5
Other	7.8	5.4	9.7	12.5	4.3	5.6
Total[2/]	143.6	100.0	77.3	100.0	76.8	100.0

[1/] Preliminary.
[2/] Figures may not add to total because of rounding.

Prices

1967 Menhaden Oil Price Lowest in 4-1/2 Years

In 1967, the average monthly price of menhaden oil dropped from 8.9 cents per pound in January to 6.0 cents per pound in December (table 24). These prices are quotations at New York City for crude oil in tank cars. The average price of oil in the last 3 months of 1967 was 6.0 cents, the lowest price since May 1963 when the average price was 5.6 cents per pound. The average annual price in 1967 was 7.0 cents per pound, compared to 9.4 cents in 1965 and 1966 (table 24).

FISH SOLUBLES

Supply

U.S. Production of Fish Solubles Down 12 Percent From 1966

An estimated 73,700 short tons of fish solubles were produced in the United States last year (table 25). This amount is 12 percent less than the 83,400 short tons produced in 1966, and 24 percent less than the average amount produced during 1962-66.

Table 24.-- Average monthly price of menhaden oil[1/] f.o.b. east coast plants, 1962-67

Month	1962	1963	1964	1965	1966	1967
	Cents per pound					
January	4.75	4.70	8.40	9.15	9.50	8.90
February	4.75	5.40	8.35	9.50	9.70	8.90
March	4.75	5.50	8.50	9.50	9.75	8.60
April	4.75	5.75	8.75	9.50	9.75	7.20
May	4.70	5.60	8.50	9.45	9.75	6.90
June	4.40	6.50	8.65	9.15	9.60	6.95
July	4.20	6.75	8.75	8.95	9.40	6.70
August	4.25	7.10	8.80	9.30	9.00	6.00
September	4.05	7.30	9.05	9.50	9.45	5.80
October	3.95	7.60	9.20	9.50	9.45	6.00
November	4.00	7.75	9.40	9.50	9.20	6.00
December	4.00	8.00	9.40	9.50	8.90	6.00
Average[2/]	4.40	6.50	8.80	9.35	9.45	7.00

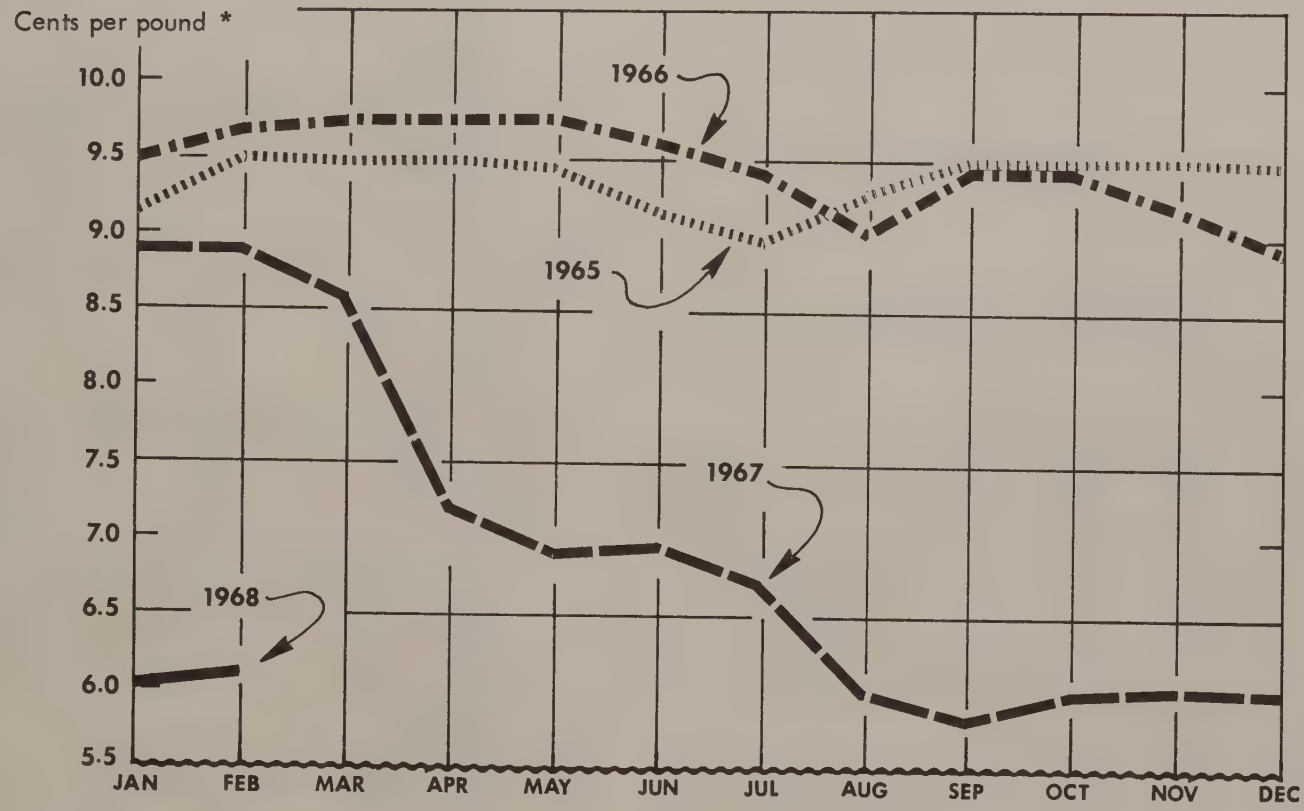
[1/] Crude oil in tank cars; prices quoted at New York City.
[2/] Simple average.

Table 25.--U.S. production of fish solubles by month, 1966, 1967, and 1962-66 average

Month	1962-66 average		1966		1967[1/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	1.5	1.5	1.4	1.7	2.6	3.5
February	1.4	1.4	1.8	2.1	1.0	1.4
March	1.9	2.0	3.6	4.3	1.8	2.4
April	3.7	3.8	3.6	4.3	4.0	5.4
May	12.4	12.8	8.2	9.8	6.1	8.3
June	17.5	18.0	15.1	18.1	13.4	18.2
July	17.3	17.8	13.9	16.7	12.4	16.8
August	16.0	16.5	12.7	15.2	12.1	16.4
September	10.5	10.8	9.8	11.8	6.6	9.0
October	7.6	7.8	5.3	6.4	5.0	6.8
November	4.6	4.7	5.6	6.7	5.3	7.2
December	2.6	2.7	2.4	2.9	3.4	4.6
Total[2/]	97.0	100.0	83.4	100.0	73.7	100.0

[1/] Preliminary.
[2/] Figures may not add to total because of rounding.

AVERAGE MONTHLY PRICE OF MENHADEN OIL AT NEW YORK CITY, 1965-68



*F.o.b. east coast plants

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Figure 9

U.S. Imports of Fish Solubles Also Down in 1967

The United States imported 3,700 short tons of fish solubles in 1967--down 14 percent from 1966 and down 31 percent from average imports for 1962-66 (table 26).

With both production and imports below 1966 levels, total fish solubles available for consumption in 1967 (excluding stocks) was 77,400 short tons--down 12 percent from the total in 1966 and 24 percent below the average total for 1962-66 (table 27).

Table 26.--U.S. imports of fish solubles by month, 1966, 1967, and 1962-66 average

Month	1962-66 average		1966		1967	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	0.3	5.5	0.2	4.7	0.5	13.5
February	0.9	16.7	0.1	2.3	0.1	2.7
March	0.4	7.4	0.2	4.7	0.1	2.7
April	0.6	11.1	1.4	32.5	1.8	48.6
May	0.5	9.3	1.2	27.9	0.3	8.1
June	0.4	7.4	0.2	4.7	0.1	2.7
July	0.5	9.3	0.2	4.7	0.1	2.7
August	0.2	3.7	0.1	2.3	0.1	2.7
September	0.2	3.7	0.1	2.3	0.2	5.4
October	0.2	3.7	0.1	2.3	0.2	5.4
November	0.4	7.4	0.3	6.9	0.2	5.4
December	0.8	14.8	0.2	4.7	0.1	2.7
Total[1/]	5.4	100.0	4.3	100.0	3.7	100.0

[1/] Figures may not add to total because of rounding.

Table 27.--Total fish solubles available in the United States: production plus imports, by month, 1966, 1967, and 1962-66 average

Month	1962-66 average		1966		1967[1/]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
January	1.8	1.8	1.6	1.8	3.1	4.0
February	2.3	2.2	1.8	2.0	1.1	1.4
March	2.4	2.3	3.8	4.3	1.9	2.4
April	4.2	4.1	5.0	5.7	5.8	7.5
May	12.8	12.5	9.5	10.8	6.4	8.3
June	17.9	17.5	15.4	17.6	13.6	17.6
July	17.8	17.4	14.1	16.1	12.4	16.0
August	16.3	15.9	12.8	14.6	12.3	15.9
September	10.7	10.4	9.9	11.3	6.8	8.8
October	7.8	7.6	5.4	6.2	5.1	6.6
November	5.1	5.0	5.8	6.6	5.5	7.1
December	3.4	3.3	2.6	3.0	3.4	4.4
Total	102.5	100.0	87.7	100.0	77.4	100.0

[1/] Preliminary.

Demand

The demand for fish solubles is related to the same factors that affect the demand for fish meal. The most important of these factors are the number of broilers on feed and the prices of competing feed ingredients, which were discussed in the section on fish meal.

Prices

In 1967, the average monthly price of menhaden solubles dropped from $80.85 per short ton in January to $60.00 per ton in November and December (table 28). These averages are based on prices quoted at New York City. The average price for the year was $66.05 per short ton, compared to $71.30 in 1966 and $59.90 per ton in 1965.

Table 28.--Average monthly price of menhaden solubles[1/] f.o.b. east coast plants, 1962-67

Month	1962	1963	1964	1965	1966	1967
	Dollars per short ton					
January	58.00	65.00	75.00	58.60	66.25	80.85
February	58.75	66.25	75.00	59.40	66.50	79.00
March	59.60	62.50	62.25	61.25	66.70	70.75
April	59.70	61.25	52.25	56.25	68.75	64.60
May	56.25	61.25	62.25	53.75	68.75	64.00
June	53.10	61.25	62.25	55.75	68.75	64.40
July	53.25	61.25	62.25	56.85	68.75	64.05
August	54.05	61.75	61.95	60.00	68.75	62.85
September	55.40	64.10	61.20	61.25	72.50	61.25
October	58.30	66.55	61.05	63.95	78.75	60.75
November	64.95	75.00	61.25	65.25	79.25	60.00
December	64.15	75.65	61.25	66.25	81.90	60.00
Average[2/]	57.95	65.15	64.00	59.90	71.30	66.05

[1/] In tank cars; prices quoted at New York City.
[2/] Simple average.

OUTLOOK

April-June 1968

FISH MEAL

Supply

During the second quarter of 1968, domestically produced fish meal will come from menhaden, thread herring, anchovies, and other fish and fish by-products. Studies by the Bureau of Commercial Fisheries Biological Laboratory at Beaufort, N.C., indicate the number of menhaden available for reduction in 1968 will be lower than in 1967. Therefore, menhaden meal production during the period April-June 1968 is likely to be lower than production during the same period a year ago. Also, the production of anchovy meal is likely to continue at a low level during the rest of the anchovy fishing season, which ends on April 30. Therefore, even though some increase is expected in the production of meal from thread herring, total domestic production of fish meal during the second quarter of 1968 is expected to be lower than production during the same period in 1967. In 1967, 55,100 short tons of fish meal were produced during the second quarter, whereas production during the second quarter of 1968 is expected to be around 45,000 tons.

Even though domestic production in 1968 is likely to be less than in 1967, large quantities of fish meal should be available from foreign countries. Although figures for January production, stocks, and exports are not available for all member countries of F.E.O., that organization reported that Peru produced 284,000 metric tons of fish meal during January 1968, and that Peruvian fish meal stocks totaled 688,900 metric tons at the end of January. As mentioned previously, Peru held 600,300 metric tons on January 1, 1968. With these figures as a guide, the Bureau of Commercial Fisheries estimates that F.E.O. countries were holding over 900,000 metric tons of fish meal at the end of January 1968. These large stocks and the current high rate of fish meal production indicate that a large amount of fish meal will be available to feed formulators in the United States and foreign countries during the second quarter of 1968.

How much of the fish meal produced in and held by F.E.O. countries will come to the United States will depend on the ratio of the price of fish meal in this country to the price of fish meal in foreign countries, and on the ratio of the price of fish meal in this country to the price of soybean meal in this country. If current price ratios hold, F.E.O. countries will ship at least 175,000 short tons of fish meal to the United States during the second quarter of 1968.

During the first two months of 1968, the United States imported 139,900 short tons of fish meal, up 62 percent from the amount imported the same two months last year. Most (94 percent) of these imports came from F.E.O. countries, with 80 percent coming from Peru alone.

Demand

Major factors affecting the demand for fish meal are the number of broiler chicks on feed at a given time and the prices of other feed ingredients, such as soybean meal. A major indicator of the number of chicks that will be on feed during some future period, is the number of eggs in incubators at some previous point in time. During the week ending March 23, the 22 major broiler-producing States had 207.1 million eggs in incubators--down 3 percent from the number of eggs the same time last year. Also, during the first 3 weeks of March, the number of chicks on feed was 2 percent lower than during the same period last year. Using the number of eggs in incubators and the general trend in the number of chicks on feed as indicators, the Bureau of Commercial Fisheries expects broiler chicks on feed during the second quarter of 1968 to be 1 to 3 percent less than in the second quarter of 1967. This decline means that the potential consumption of fish meal by broilers during the second quarter of 1968 is expected to be down slightly from a year ago.

In addition to the number of broiler chicks on feed, the relation between the price of fish meal and the prices of other feed ingredients is a major factor determining how much fish meal will be consumed in the

United States. The ratio between the price of fish meal and the price of soybean meal has been found to be a major determinant of domestic fish meal consumption. Within the limitations imposed by the number of broilers on feed and by the maximum amount of fish meal permitted in an animal diet, the lower the ratio of fish meal price to soybean meal price, the more fish meal will be consumed. The ratio of the price of Peruvian fish meal (65 percent protein) at New York City to the price of soybean meal (50 percent solvent) at Decatur, Ill., is currently 1.45 to 1, compared to 1.61 to 1 for March 1967 and an average annual ratio of 1.57 to 1 for 1967. Between 225,000 and 275,000 short tons of fish meal are likely to be consumed in the United States during the second quarter if the price ratio stays at 1.45 to 1.

FISH OIL

Supply

Domestic fish oil production during the second quarter of 1968 is likely to be down from second quarter 1967 because the landings of menhaden, which are the source of most U.S. oil production, are expected to be lower than in 1967. During the second quarter of 1968, menhaden oil production is expected to be about 25 million pounds and total U.S. oil production about 30 million pounds.

U.S. stocks of fish oil at the end of 1967 totaled 80 million pounds. If stocks remain near this level through the first quarter, then about 110 million pounds of fish oil will be available during the second quarter for domestic consumption, exports, and carryover.

Demand

The world demand for edible fats and oils is likely to continue strong in 1968. The demand for fish oil in Europe will depend on European supplies of vegetable oils, the quantity of edible fats and oils available for export from the United States and other countries, and on how the supplies of all the fats and oils will affect prices. The quantity of edible fats and oils available for export in the 1967/68 marketing year that started October 1 is estimated to be more than the amount exported last year and near the record amounts exported in 1964/65. [2/] Most of the increase is due to soybean oil. Industrial consumption of fish oil during the second quarter of 1968 is expected to be near 10 million pounds.

2/ Kromer, George W., Outlook for Fats, Oils, and Oilseeds in 1967-1968, U.S. Department of Agriculture Economic Research Service; presented at the Annual Agricultural Outlook Conference, November 16, 1967.

During the first quarter of 1968, the average price of menhaden oil was 6 cents per pound (f.o.b. east coast plants)--3 cents per pound below the average price for the first quarter of 1967, and 1 cent below the average monthly price for 1967.

FISH SOLUBLES

U.S. production of fish solubles for the second quarter of 1968 is estimated to be about 20,000 short tons. Imports are expected to be about 2,000 tons, making the total quantity available (excluding stocks) approximately 22,000 short tons.

The average price of fish solubles for the first quarter of 1968 was $61.75 per short ton (f.o.b. east coast plants) compared to $76.85 per ton for the first quarter of 1967, and the average annual price of $66.05 for 1967.

This is the first issue of Industrial Fishery Products Situation and Outlook.

The next issue is scheduled for release in July 1968.

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